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Three Embarcadero Center,
San Francisco, California 94111
Serial No.. Not Yet Assigned
Filing Date: April 16, 2001
Inventors: Bristow, et al.
Titled: SOFTWARE AND PROTOCOT STRUCTURE FOR AN AUTOMATED USER NOTIFICATION SYSTEM
Express Mailing Label No : EL710236861US
Figure 1 of 19 Attorney Docket No. 22962-7005

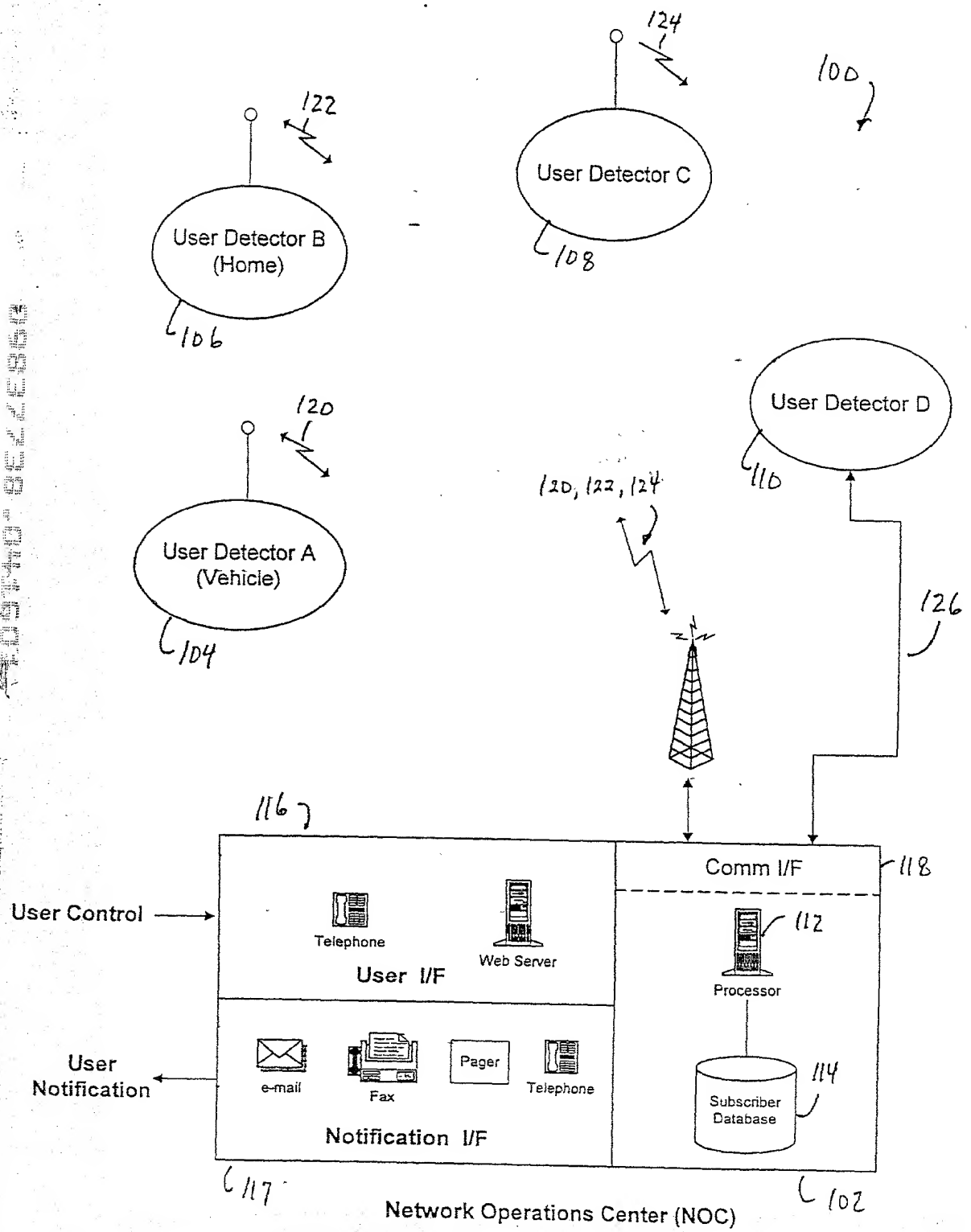


FIG. 1

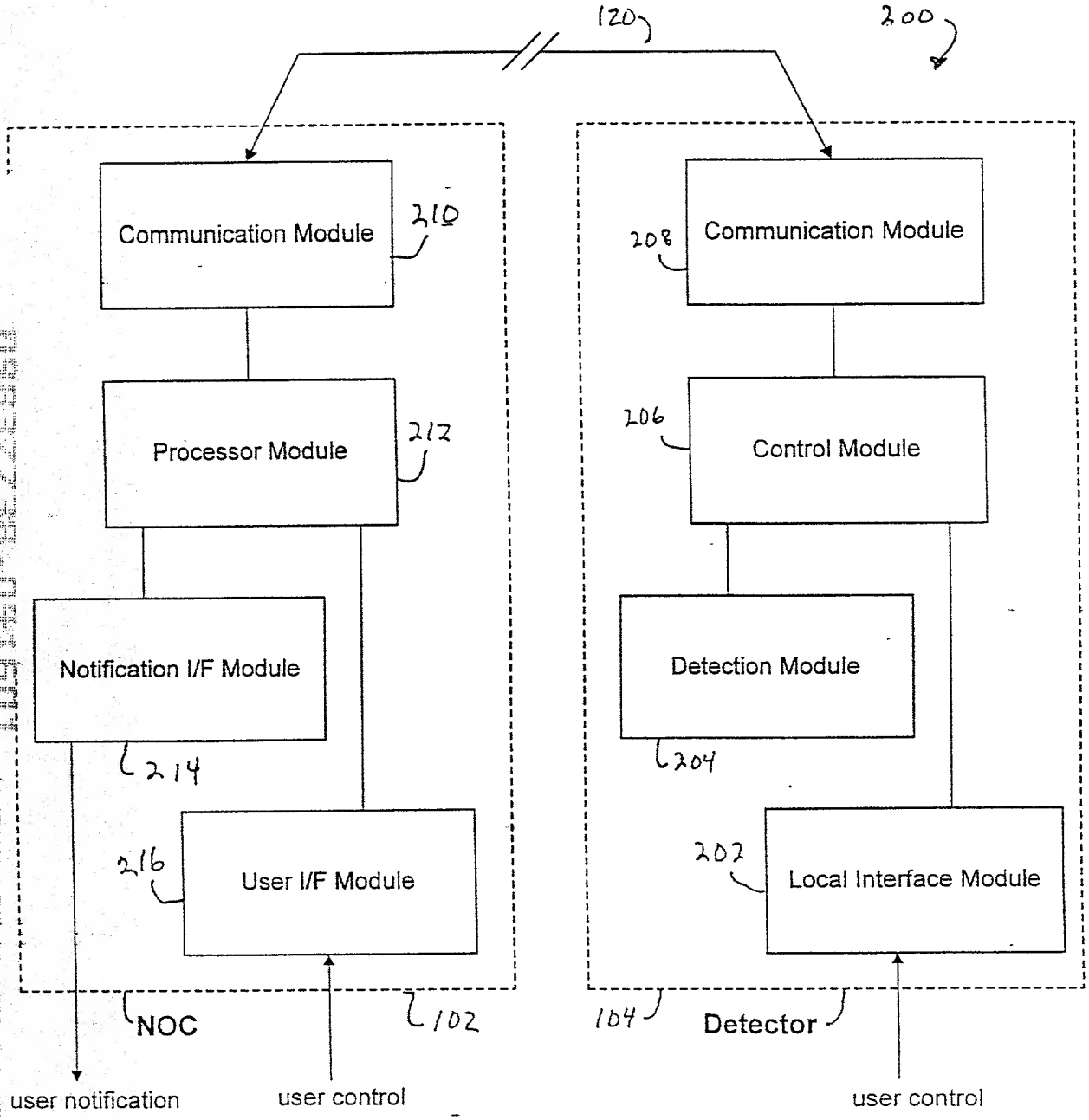
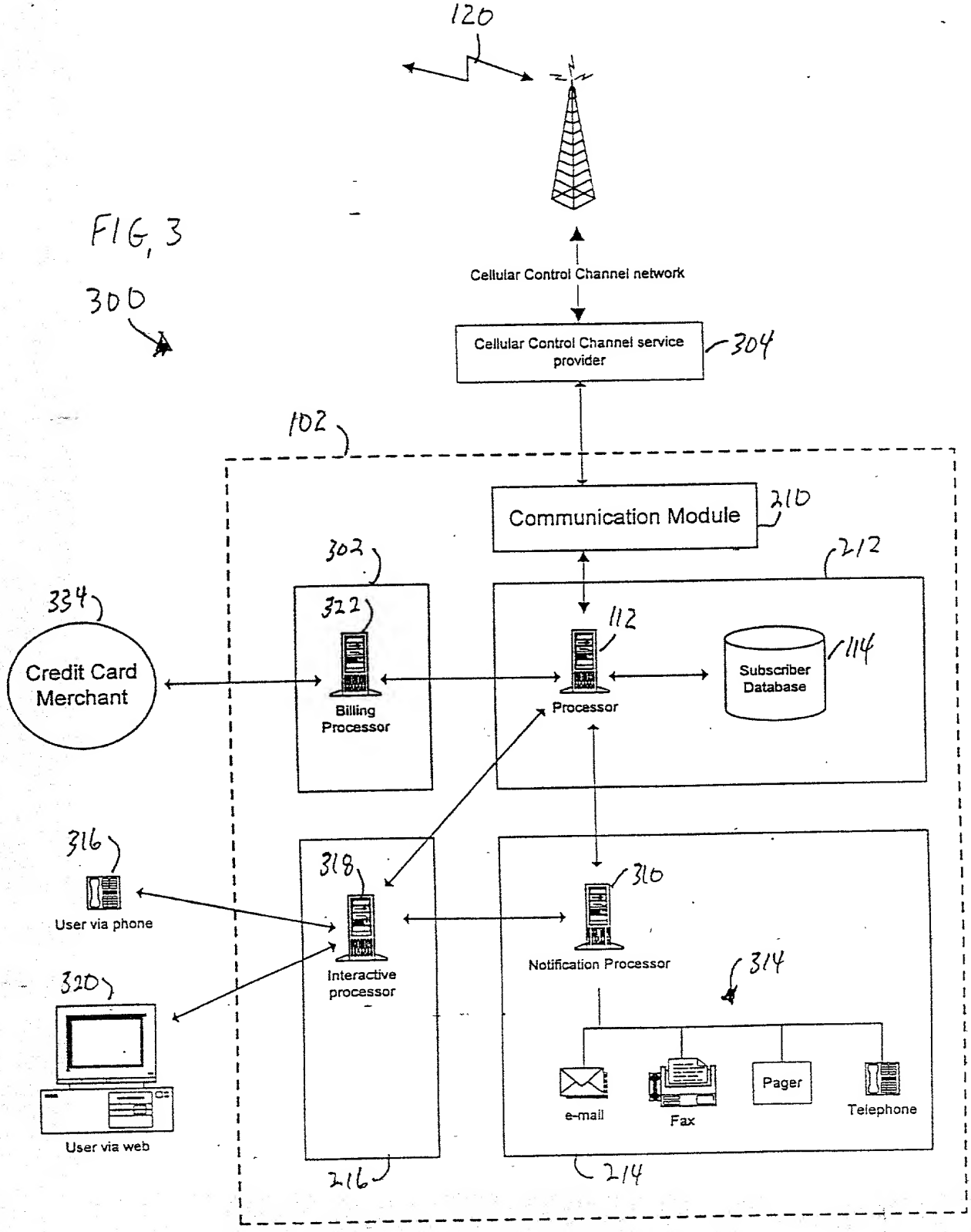

120
200
Communication Module
210
Processor Module
212
Notification I/F Module
214
User I/F Module
216
NOC
102
user notification
user control
Communication Module
208
Control Module
206
Detection Module
204
Local Interface Module
202
104
Detector
user control

FIG. 2

FIG. 3


120
Cellular Control Channel network
300
Cellular Control Channel service provider
304
102
Communication Module
210
302
212
334
322
112
114
Credit Card Merchant
Billing Processor
Processor
Subscriber Database
316
318
310
User via phone
Interactive processor
Notification Processor
314
320
e-mail
Fax
Pager
Telephone
User via web
216
214

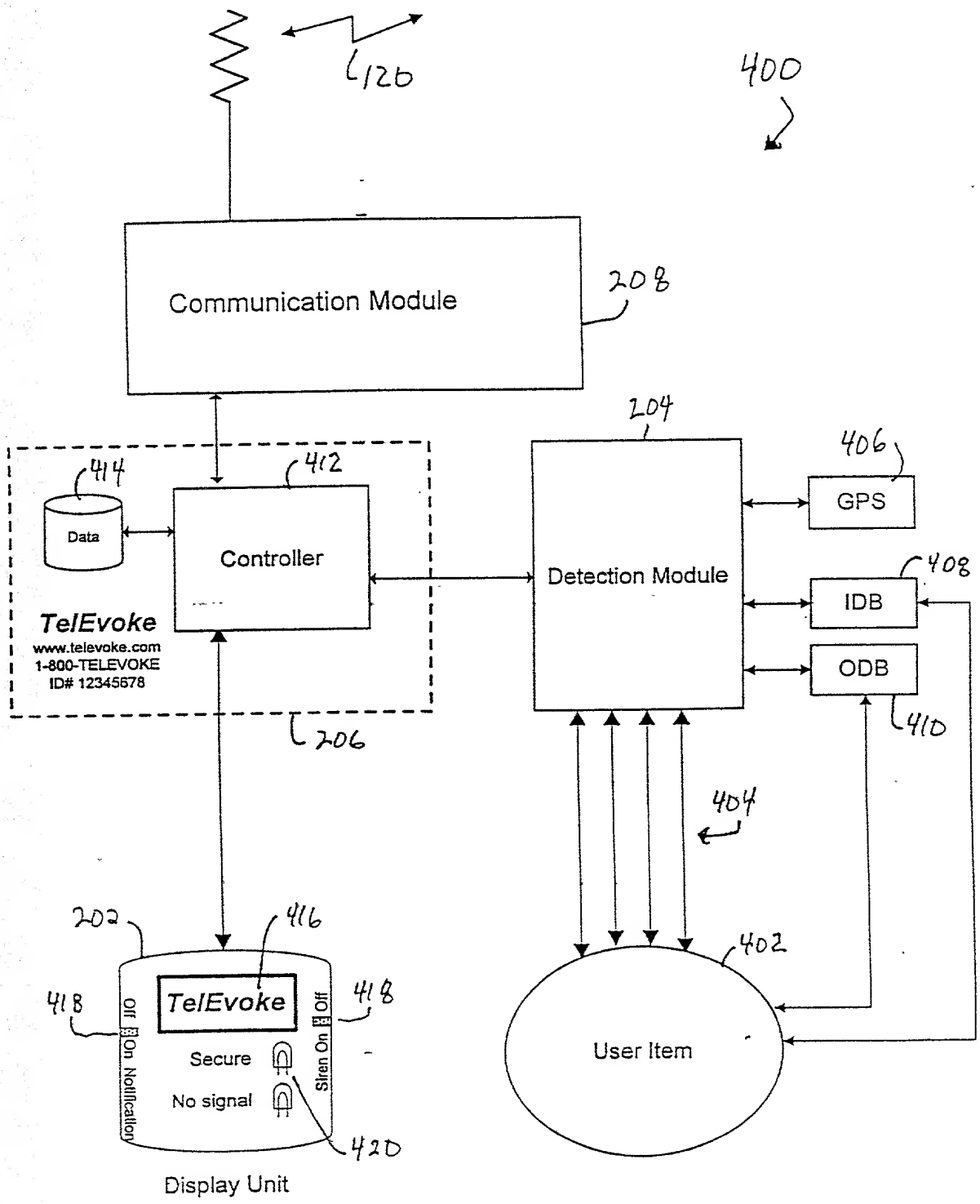

120
400
Communication Module
208
204
406
GPS
414
412
Data
Controller
Detection Module
408
IDB
ODB
410
TelEvoke
www.televoke.com
1-800-TELEVOKE
ID# 12345678
206
404
202
416
418
418
TelEvoke
Off
On
Notification
Secure
No signal
Siren On
Off
420
Display Unit
402
User Item

Fig. 4

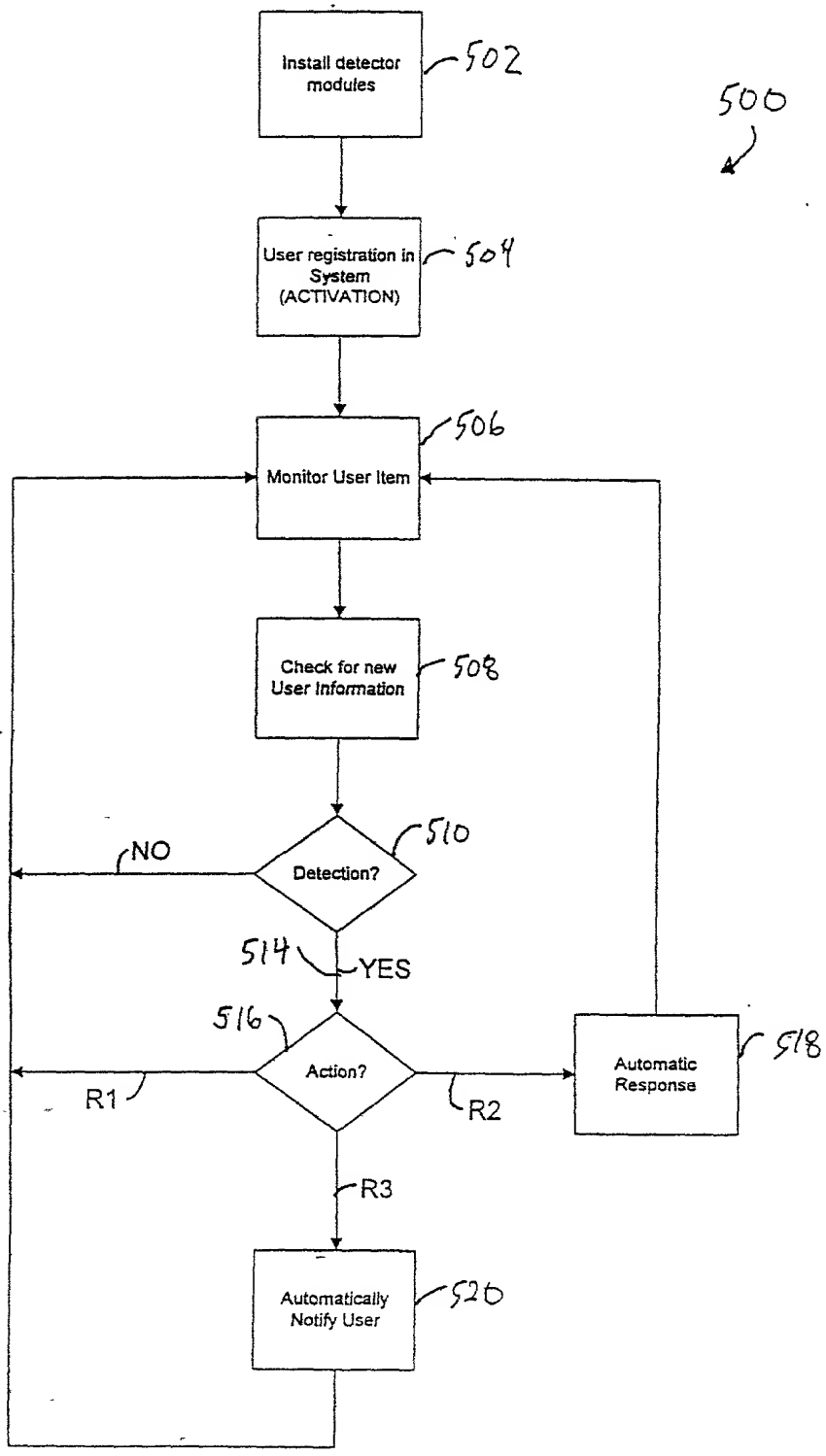
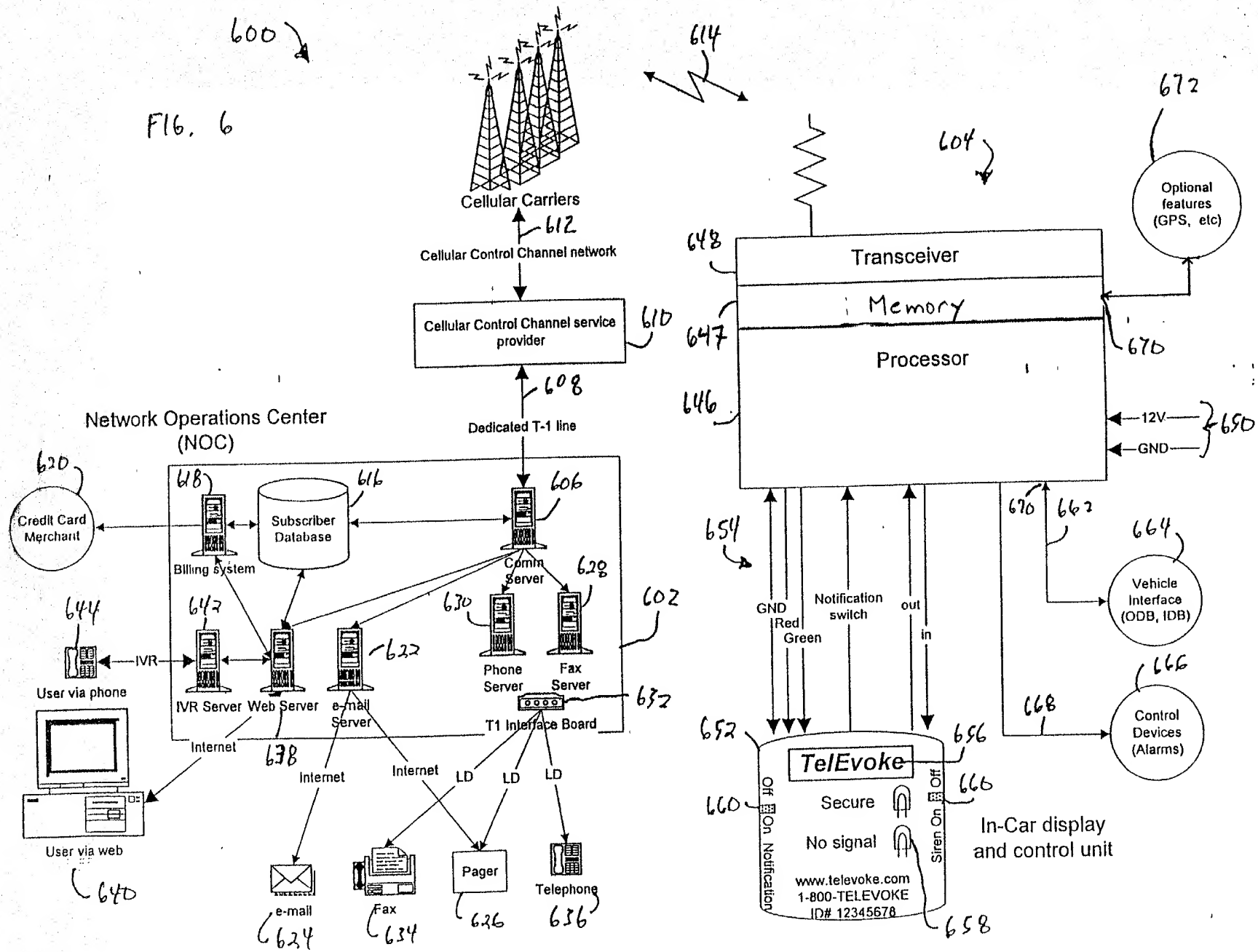

Install detector modules
502
500
User registration in System (ACTIVATION)
504
Monitor User Item
506
Check for new User Information
508
Detection?
510
NO
514
YES
Action?
516
R1
R2
R3
Automatic Response
518
Automatically Notify User
520

FIG. 5



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700

ID NUMBER	CONDITION
0	Doors Lock/Unlocked
1	Windows Up/Down
2	Alarm Arm/Disarm
3	Sunroof Open/Close
4	Trunk Open/Close
5	Lights On/Off
6	Horn On/Off
7	Engine
8	Ignition
9	GPS Tracking

704

702

FIG. 7

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FIG. 8

800

802 Interface type	804 Device
serial port	IDB (Doors Lock/Unlocked)
serial port	IDB (Windows Up/Down)
twist pair	Alarm Arm/Disarm
serial port	IDB (Sunroof Open/ Close)
serial port	IDB (Trunk Open/Close)
serial port	IDB (Lights On/Off)
twist pair	Horn On/Off
serial port	OBD (Engine)
serial port	OBD (Ignition)
806 parallel port	GPS Tracking 808
twist pair	Misc.

IDB = Intelligent Data Bus (devices available)

OBD = On Board Diagnostic (engine functions)

Televoke Login Page

TELEVOKE

Welcome to televoke.net

Device ID#: [ ] 902

Passcode: [ ] 904

ENTER

How to get Televoke?
Support

Copyright © 1999 Televoke, Inc. All rights reserved.

Note: this is a non-public website and is protected by password security. All content at www.televoke.net and its sub directones is proprietary and confidential

900

FIG. 9A

Televoke - Notification

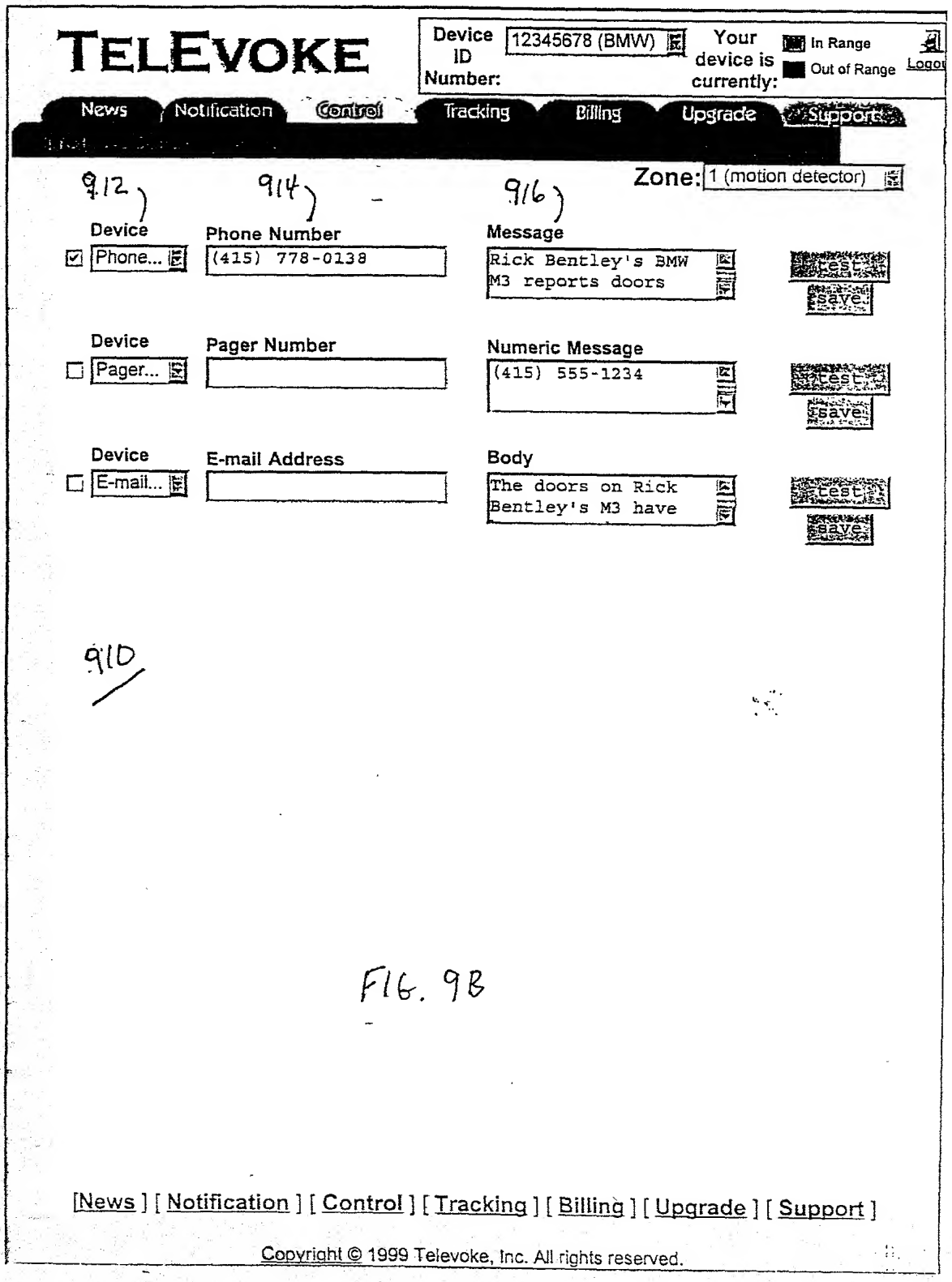

FIG. 9B

Televoke Control Page

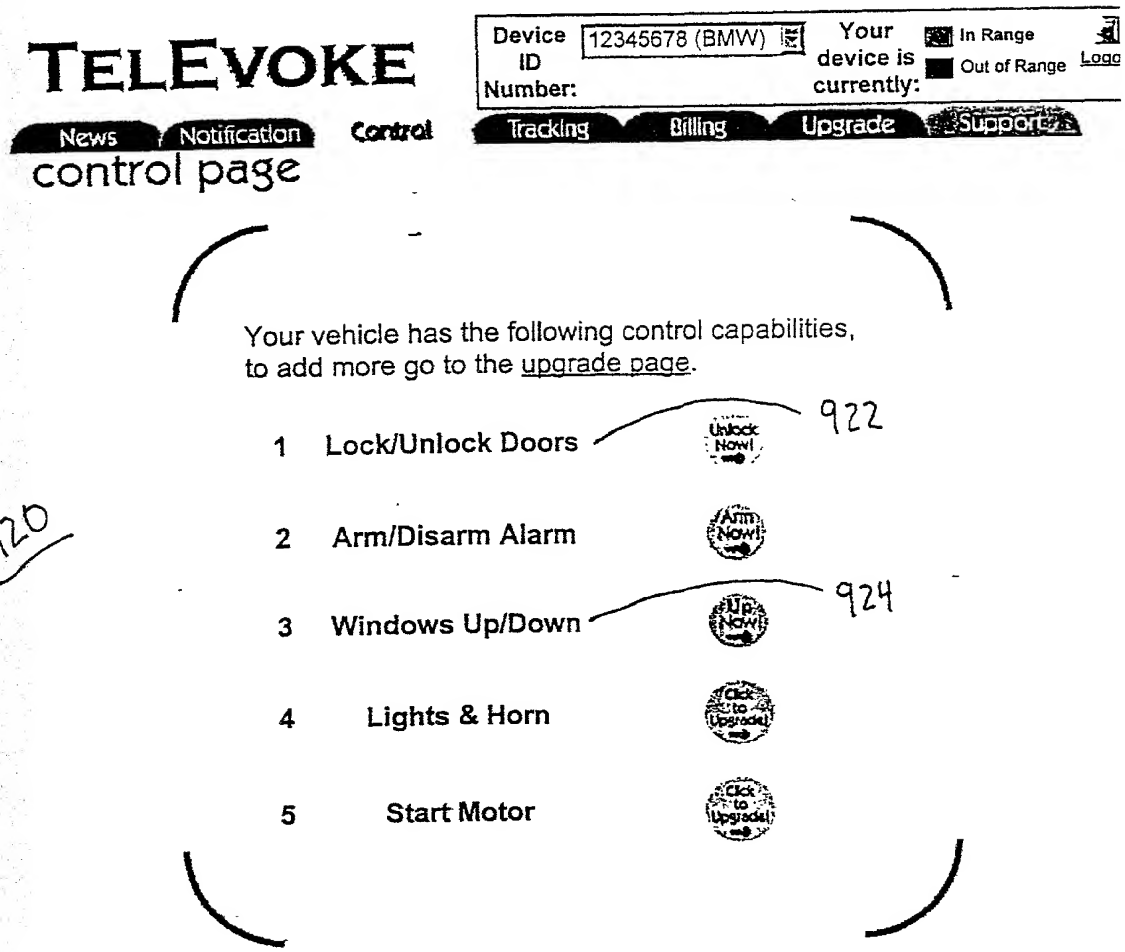

FIG. 9C

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Televoke News and Events Page

TELEVOKE

Device ID Number: 12345678 (BMW) Your device is currently: In Range / Out of Range Logo

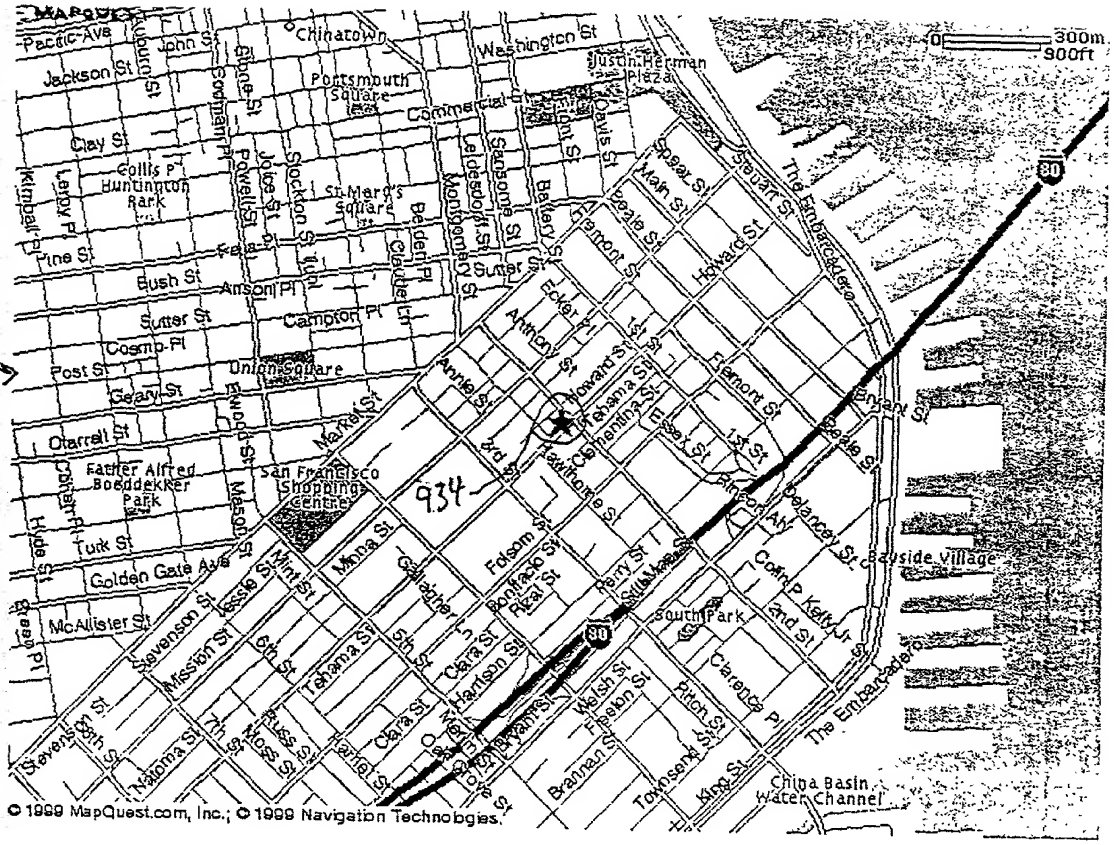
News | Notification | Control | Tracking | Billing | Upgrade | Support

tracking page

930

Your automobile is currently nearest:
Howard and New Montgomery in San Francisco, California.
It is currently stationary and hasn't moved for the last 3 hours.

732


0 300m 900ft
Pacific Ave
Jackson St
Chinatown
Washington St
Justin Herman Plaza
Commercial St
Clay St
Kimball Pl
Leroy Pl
Collis P Huntington Park
Pine St
Bush St
Sutter St
Post St
Geary St
Ofarrell St
Union Square
Ansonia Pl
Campton Pl
Cosmo Pl
St Mary's Square
Belden Pl
Claude Ln
Stockton St
Powell St
Grant Ave
Sansome St
Montgomery St
Battery St
Front St
Davis St
Spear St
Main St
Beale St
Fremont St
Howard St
Folsom St
Harrison St
Bryant St
The Embarcadero
Anthony St
Ecker St
Annie St
3rd St
Lafayette St
Market St
Stevenson St
Jessie St
Ellis St
Eddy St
Mason St
Taylor St
Cohen Pl
Hyde St
Father Alfred Boeddeker Park
San Francisco Shopping Centre
Turk St
Golden Gate Ave
Mint St
Mason St
Jones St
Leavenworth St
Hyde St
Larkin St
Polk St
Van Ness Ave
Gough St
Franklin St
Gough St
Octavia Blvd
Laguna St
Buchanan St
Webster St
Fillmore St
Steiner St
Pierce St
Scott St
Divisadero St
Broderick St
Baker St
Lyon St
Presidio Ave
Walnut St
Locust St
Spruce St
Presidio Ave
Maple St
Commercial St
Market St
Mint Plaza
Battery St
Front St
Drumm St
Sansome St
Montgomery St
Kearny St
Dupont St
Stockton St
Grant Ave
Powell St
Mason St
Taylor St
Jones St
Leavenworth St
Hyde St
Larkin St
Polk St
Van Ness Ave
Gough St
Franklin

Televoke News and Events Page

TELEVOKE

Device ID Number: 12345678 (BMW) Your device is currently: In Range / Out of Range Logo

News | Notification | Control | Tracking | Billing | Upgrade | Support

billing page

940

Activity for the current billing period starting on 4/1/99. Click here for previous billing periods.

942 Event #	944 Type	946 Date	948 Time	Action	950 Charge
162	Notification	4/01/99	11:42pm	called: (415) 555-1234	N/A
163	Notification	4/01/99	11:42pm	paged: (415) 555-4321	N/A
164	Notification	4/01/99	11:42pm	e-mail: rick@televoke.com	N/A
166	Control	4/05/99	2:30pm	unlock doors	N/A
167	Tracking	4/12/99	6:45pm	web location	N/A
168	Control	4/17/99	6:13pm	unlock doors	$0.50
168	Notification	4/20/99	10:49pm	called: (415) 555-1234	$0.50
169	Notification	4/20/99	10:49pm	paged: (415) 555-4321	$0.50
170	Notification	4/20/99	10:49pm	e-mail: rick@televoke.com	$0.50

Your current plan includes 5 free events per month. To upgrade your plan for more included events, or more features click on UPGRADE.

[News] [Notification] [Control] [Tracking] [Billing] [Upgrade] [Support]

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FIG. 9E

1005

1010

1015

Table 1 Downstream Message Codes

Function	Message Name	Code
Account Maintenance	*D_Activate_Account*	WC1
Account Maintenance	*D_Deactivate_Account*	WC2
Remote Vehicle Tracking	*D_Get_Last_Known_Position*	1
Remote Vehicle Tracking	*D_Get_Last_8_Pos_5_min*	WC3
Remote Vehicle Tracking	*D_Get_Last_8_Pos_1_hour*	WC4
Remote Vehicle Tracking	*D_Get_Last_8_Stops*	WC5
Remote Vehicle Control (G4 Systems Only)	*D_Arm_and_Lock*	2
Remote Vehicle Control (G4 Systems Only)	*D_Disarm_and_Unlock*	3
Remote Vehicle Control (G4 Systems Only)	*D_Activate_Output_A*	4
Remote Vehicle Control (G4 Systems Only)	*D_Activate_Output_B*	5
Remote Vehicle Control (G4 Systems Only)	*D_Activate_Output_C*	6
Remote Vehicle Control (G4 Systems Only)	*D_Disable_Sensor_A*	WC6
Remote Vehicle Control (G4 Systems Only)	*D_Enable_Sensor_A*	WC7
Remote Vehicle Control (G4 Systems Only)	*D_Disable_Sensor_B*	WC8
Remote Vehicle Control (G4 Systems Only)	*D_Enable_Sensor_B*	WC9
Remote Vehicle Control (G4 Systems Only)	*D_Disable_Sensor_C*	WC10
Remote Vehicle Control (G4 Systems Only)	*D_Enable_Sensor_C*	WC11
Emergency Button and Impact Sensor Response	*D_Received_and_Dispatched*	7

1012

1017

FIG. 10

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FIG. 11

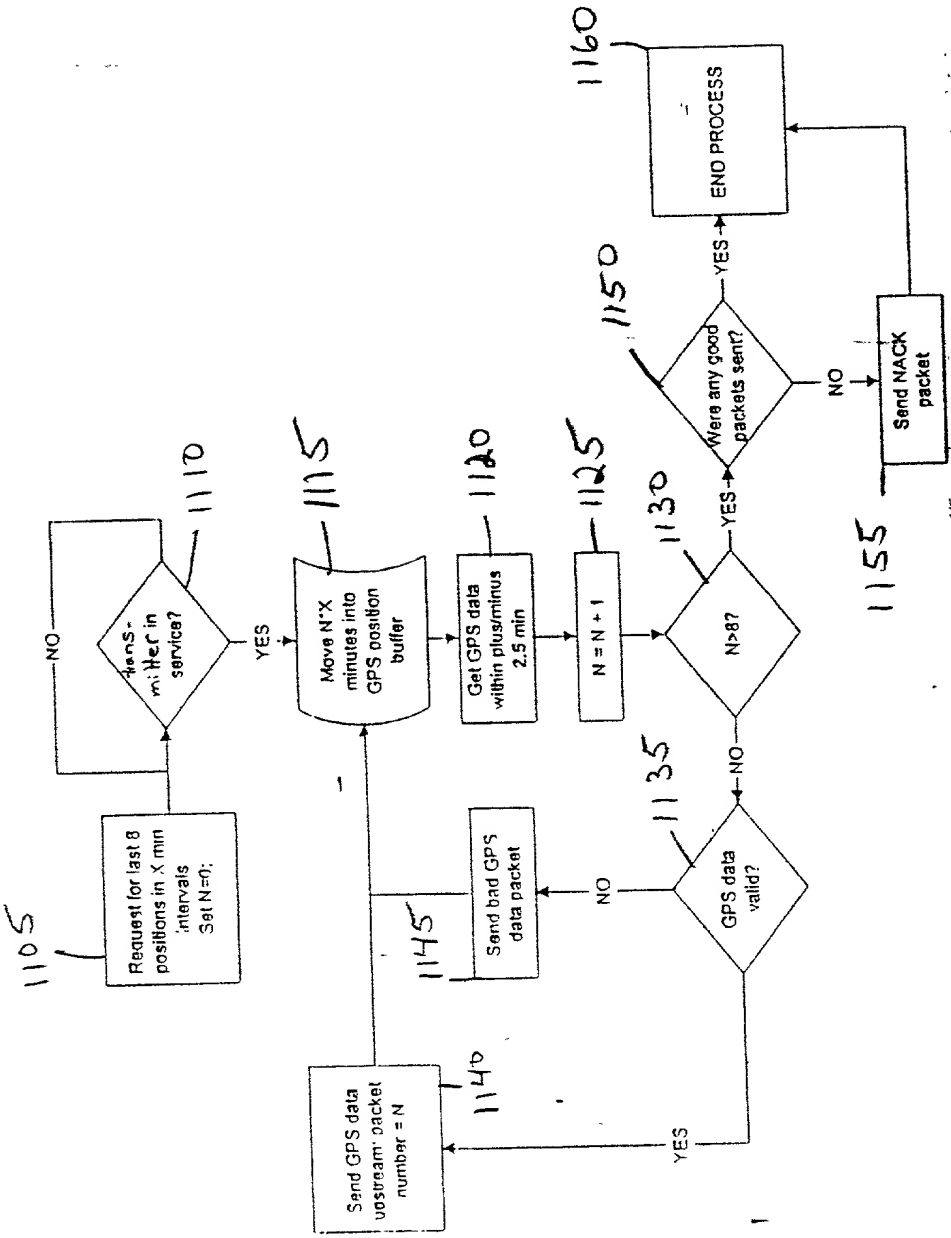

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Table 2 Upstream Microburst Data Format

Digit	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	MSD	LSD	Dir	D_1	D_2	M_1	M_2	M_3	M_4	D_1	D_2	M_1	M_2	M_3	M_4
Content	Alarm Event and Speed		Di-rection	Longitude position offset data. Format: $D_1D_2M_1M_2M_3M_4$						Latitude position data. Format: $D_1D_2M_1M_2M_3M_4$					

1205 1210 1215 1220 1225 1230

FIG. 12

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Table 3 Direction Code Map

Code	A	1	2	3	4	5	6	7	8
Meaning	N	NE	E	SE	S	SW	W	NW	Stopped*

*When vehicle is stopped, direction is not defined.

1305

1310

FIG. 13

Table 4 Upstream Message Codes

Reference Section(s)	Message Name	Alarm Event and Speed Code			
		SP1*	SP2	SP3	SP4
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Sensor_A*	00	25	50	75
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Sensor_B*	01	26	51	76
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Sensor_C*	02	27	52	77
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Door_Trigger*	03	28	53	78
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Trunk_Trigger*	04	29	54	79
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Hood_Trigger*	05	30	55	80
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Ignition_Sensor*	06	31	56	81
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_3_Invalid_Valet_Codes*	07	32	57	82
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_BlackJax_Activation*	08	33	58	83
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_System_OK*	09	34	59	84
Remote Vehicle Tracking Alarm Event Notification Configuration (G4 Systems Only)	*U_Alarm_Reset*	10	35	60	85
Remote Vehicle Tracking**	*U_5_Min_Pos*	11	36	61	86
Remote Vehicle Tracking**	*U_1_Hour_Pos*	12	37	62	87
Remote Vehicle Tracking**	*U_Last_8_Stops_Pos*	13	38	63	88
Remote Vehicle Tracking**	*U_Stops_1_6_Time*	14	39	64	89
Remote Vehicle Tracking**	*U_Stops_7_8_Time*	15	40	65	90
Emergency Button and Impact Sensor Response	*U_Button_911*	16	41	66	91
Emergency Button and Impact Sensor Response	*U_Button_Roadside*	17	42	67	92
Emergency Button and Impact Sensor - Response	*U_Button_Medical*	18	43	68	93
Remote Vehicle Control (G4 Systems Only)***	*U_Command_ACK*	19	44	69	94

*SP1 = 6-25 MPH;SP2 = 26-50 MPH;SP3 = 51-75 MPH;SP4 = >76 MPH

**Detail of these messages is defined in referenced document Clifford Vehicle Tracking Payload Protocol and Format

***Substitute ACK code (1 = received and handled, 2 = received and could not execute) for digit 3, digit 4 & 5 command code received per Table1

FIG. 14

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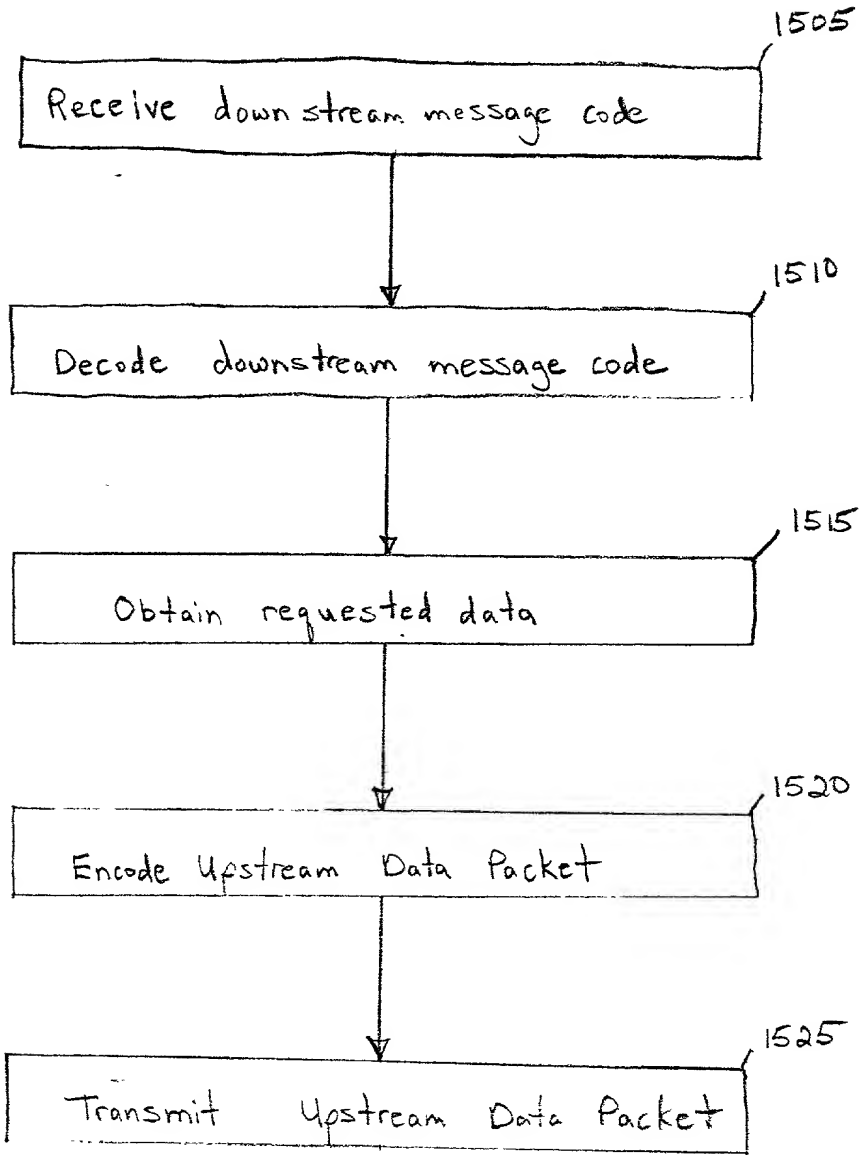

FIG. 15